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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/600,648	06/23/2003	Fiorenzo Brivio	7040.0060.01	6130

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EXAMINER

MAKI, STEVEN D

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 09/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/600,648

Applicant(s)

BRIVIO ET AL.

Examiner

Steven D. Maki

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 9-6-06.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 33-53 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 33-53 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application
- ☐ Other: _____.

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1) A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9-6-06 has been entered.

2) The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3) Claims 34, 41 and 48 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear if claims 34, 41 and 48 require the retaining means to be a "magnetic means" or a "magnet".

4) The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Crooker (separation caused by opening of mold)

6) **Claims 33-34, 40-41 and 47-48 are rejected under 35 U.S.C. 102(b) as being anticipated by Crooker (US 2770013).**

Crooker teaches a method of making a tire comprising:

- providing a mold 10 which is made of two sections 11 and 12 wherein the mold comprises stud holders such as stud holders 46 (figure 8) or stud holders 42 (figure 6),
- inserting studs into seats of the stud holders,
- retaining the studs in the seats using magnets 49 (figure 8) or leaf spring elements (figure 6),
- providing (producing) a tire having an uncured tread,
- inserting the tire in the mold,
- vulcanizing the tire to form a vulcanized tire having the studs,
- removing the vulcanized tire from the mold wherein the studs are perpendicular to the tread surface as indicated by figure 1.

As to claims 33, 40 and 47, the claimed method is anticipated by the method of Crooker. As to partially projecting, see column 1 lines 20-21 and figure 1. As to "substantially perpendicular", see figure 1 of Crooker which illustrates the studs as being perpendicular to the tread surface. Crooker states: "... hold traction enhancing studs in position during a tire molding operation, said studs being readily removable from the holders when the finished tire is taken out of the mold and the holding action of said holders not being sufficiently strong to pull the studs from the finished tire as the tire is

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removed from the mold." (col. 1 lines 30-36). Also, see col. 3 lines 15-17 of Crooker. As to closing and opening the mold, one of ordinary skill in the art would readily understand that the mold of Crooker must be closed so that the described vulcanization can occur and must be opened in order to remove the tire. The studs must inherently maintain a substantially perpendicular arrangement as claimed since Crooker teaches that the studs having the large flat head 26 are held in position during curing and shows the stud shank 45 being perpendicular to the tread surface in figure 1.

As to the limitations of "a predefined degree of clearance exists between lateral portions of each of the plurality of metal studs and one of the respective seats" (claim 33), "the plurality of metal studs are not subjected to any flexural stress" (claim 40) and "the plurality of metal studs are not subjected to traction caused by friction against the seats" (claim 47), each of these limitations are inherently met by Crooker. As can be seen from FIGURE 6, a clearance exists between lateral portions of the stud and the leaf springs of the seat for the stud. The leaf spring element 44 does not contact the stud along its entire length. In FIGURE 8, a clearance must exist in the magnet embodiment (figure 8) since the Crooker teaches that the magnet is the *sole* holding means for the stud. See col. 4 line 44-47 of Crooker. Since the walls of the seat do not hold the stud in the magnet embodiment, a clearance exists between the stud and the seat; and the studs are therefore not subjected to any flexural stress (claim 40) or traction (claim 41). Claims 33, 40 and 47 fail to require a clearance of 0.2 mm as described in the specification at page 18.

With respect to "wherein the mould includes means for retaining the plurality of studs in the seats, and the retaining means is separated from the plurality of studs, support for this subject matter is found in the original disclosure at least at page 18 lines 8-9 and page 20 lines 21-29. The "means for retaining" reads on magnets or vacuum means or clips. The subject matter of "the retaining means is separated from the plurality of studs" is sufficiently broad to read on the studs being separated from the retaining means during or after opening of the mold. The subject matter of "the retaining means is separated from the plurality of studs" reads on and fails to exclude contact between the studs and the retaining means (magnet or leaf spring) when the mold is closed and separation of the studs and retaining means (magnet or leaf spring) caused by the opening of the mold.

7) Claims 35-37, 42-44 and 49-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crooker in view of Eger (US 2121956).

As to claims 35-37, 42-44 and 49-51, it would have been obvious to provide the metal studs (antiskid inserts) of Crooker with the claimed limitations in view of Eger's teaching to plate an metal antiskid insert for a tire tread with bronze (an alloy of copper and tin) and a rubber cement so as to obtain a proper bond between the metal antiskid insert and the rubber of the tread.

8) Claims 35-39, 42-46 and 49-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crooker in view of Torrey (US 2808621).

As to claims 35-39, 42-46 and 49-53, it would have been obvious to use brass (an alloy of copper and zinc) for Crooker's studs (antiskid inserts) as claimed in view of

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Torrey's suggestion to brass plate springs (anti-skid means for a tire tread) to insure a maximum bond with the rubber of the tire (col. 3 lines 1-3). The limitation of the brass coating layer being provided by electrolytic plating or electro-plating would have been obvious in view of (1) Torrey's suggestion to brass plate springs (anti-skid means for a tire tread) to insure a maximum bond with the rubber of the tire (col. 3 lines 1-3) and (2) it is taken as well known / conventional per se to form a coating of brass on a substrate by electrolytic plating or electro-plating.

Cooker / Breen / Galli et al

9) **Claims 33-34, 40-41 and 47-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crooker (US 2,770,013) and optionally in view of at least one of Galli et al (US 5234326) and Breen (US 3,504,414).**

Crooker, which is discussed above, is considered to anticipate claims 33-34, 40-41, and 47-48. In any event: As to claims 33, 40 and 47, it would have been obvious to one of ordinary skill in the art to provide the seats of Crooker's mold wherein "a predefined degree of clearance exists between lateral portions of each of the plurality of metal studs and one of the respective seats" (claim 33), "the plurality of metal studs are not subjected to any flexural stress" (claim 40) and "the plurality of metal studs are not subjected to traction caused by friction against the seats" (claim 47) in view of (1) Crooker's teaching to use the magnet as the *sole* holding means for releasably holding the stud, (2) Crooker's teaching that the magnetic embodiment is an *alternative* to the embodiment having a spring clip for frictionally engaging the stud and optionally (3) Galli et al's suggestion to form clearances of less than 0.08 mm in a tire mold, which can be

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opened and closed, so that trapped air can escape to thereby prevent formation of bubbles / burrs. The inference from the above noted teachings of Crooker is that frictional engagement is not necessary (and consequently a clearance can be used) in the magnetic embodiment. Galli et al motivates using clearances to prevent trapped air.

As to opening and closing the mold, it would have been obvious to one of ordinary skill in the art to *close* the mold of Crooker after inserting the tire in the mold and *open* the mold such that "the predetermined degree of clearance is such that during the step of opening the mold, the studs maintain a substantially perpendicular arrangement" in view of Crooker's teaching to (a) vulcanize the tire in the mold and hold studs using a magnet during vulcanization of a tire in the mold so that the studs are perpendicular to the external surface of the vulcanized tire and (b) take the finished tire out of the mold. Also, the optional Galli et al suggests opening and closing a mold. Crooker et al's studs are shown in figure 1 as being "substantially perpendicular" with respect to the surface of the tread. The relatively large flat head 26 of the stud embedded in the cured rubber of the tire necessarily maintains this arrangement (col. 2 lines 68-72, col. 3 lines 1-4).

As to claims 34, 41 and 48, note Crooker's teaching to use magnets 49.

The description of "wherein the mould includes means for retaining the plurality of studs in the seats, and the retaining means is separated from the plurality of studs" reads on the separation being caused by opening of the mold. In any event: As to claims 33, 40 and 47, it would have been obvious an obvious alternative to one of ordinary skill in the art to use vacuum means as the retaining means in Crooker since (1)

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Cooker suggests using various means such as magnet means (figure 8) or leaf spring elements (figure 6) to hold the studs in position in the mold and (2) Breen, also directed to the tire stud art, teaches retaining studs in position using suction means, magnetic means or spring friction means wherein when suction means are used, the stud 14, 16 is "separated" from the retaining means (fan 42). See figure 6 and col. 3 lines 32-44 of Breen.

10) Claims 35-37, 42-44 and 49-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crooker and optionally in view of at least one of Galli et al and Breen as applied above and further in view of Eger (US 2121956).

As to claims 35-37, 42-44 and 49-51, it would have been obvious to provide the metal studs (antiskid inserts) of Crooker with the claimed limitations in view of Eger's teaching to plate an metal antiskid insert for a tire tread with bronze (an alloy of copper and tin) and a rubber cement so as to obtain a proper bond between the metal antiskid insert and the rubber of the tread.

11) Claims 35-39, 42-46 and 49-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crooker and optionally at least one of Galli et al and Breen as applied above and further in view of Torrey (US 2808621).

As to claims 35-39, 42-46 and 49-53, it would have been obvious to use brass (an alloy of copper and zinc) for Crooker's studs (antiskid inserts) as claimed in view of Torrey's suggestion to brass plate springs (anti-skid means for a tire tread) to insure a maximum bond with the rubber of the tire (col. 3 lines 1-3). The limitation of the brass coating layer being provided by electrolytic plating or electro-plating would have been

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obvious in view of (1) Torrey's suggestion to brass plate springs (anti-skid means for a tire tread) to insure a maximum bond with the rubber of the tire (col. 3 lines 1-3) and (2) it is taken as well known / conventional per se to form a coating of brass on a substrate by electrolytic plating or electro-plating.

Allowable Subject Matter

12) Claims 34, 41 and 48 would be allowable if (1) rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims and (2) appropriately amended to recite --using a magnet and wherein an abutting shoulder of each stud engages the internal surface of the mold such that the stud never comes into contact with the magnet--.

Support for the above subject matter is found in the original disclosure at page 17 lines 15-29. Crooker's stud contacts magnet 49 instead of never contacting magnet 49.

Remarks

13) Applicant's arguments with respect to claims 33-53 have been considered but are moot in view of the new ground(s) of rejection.

14) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is (571) 272-1221. The examiner can normally be reached on Mon. - Fri. 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Steven D. Maki
September 13, 2006


STEVEN D. MAKI
PRIMARY EXAMINER
9-13-06